

CLAIMS

WHAT IS CLAIMED IS:

1. A cellular phone installation adapted to capture and view images while
5 providing telephone communication service simultaneously, comprising:

an analog baseband processing unit for receiving an input signal and
processing the input signal into a baseband signal;

a digital baseband processing unit for receiving and processing the baseband
signal transmitted from the analog baseband processing unit;

10 an audio signal processing unit for receiving and processing an audio signal
transmitted from the digital baseband processing unit;

a image capture processing module for capturing and processing images and
communicating with the digital baseband processing unit;

a display module for receiving and displaying captured image transmitted
15 from the digital baseband processing unit and the image capture processing
module; and

an interrupt control unit handling the transmission between the digital
baseband processing unit and the display module, and intercepting the
transmission between the digital baseband processing unit and the display module
20 when the image capture processing module is transmitting data to the display
module and driving the display module to display captured image.

2. The cellular phone installation of claim 1 wherein the image capture
processing module includes an image sensor and an image sensing microprocessor,
25 the image sensor is used to capture an image and the image sensing

microprocessor is used to receive data from the image sensor and the digital baseband processing unit and transmit received data to the display module.

3. The cellular phone installation of claim 1 wherein the image sensing
5 microprocessor is furnished with a built-in memory.

4. The cellular phone installation of claim 1 wherein the digital baseband processing unit is configured to communicate with the display module via a parallel bus, and the interrupt control unit is installed upon the parallel bus
10 between the digital baseband processing unit and the display module.

5. The cellular phone installation of claim 4 wherein the image capture processing module is configured to communicate with the display module via the parallel bus.
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6. The cellular phone installation of claim 1 wherein the analog baseband processing unit, the audio signal processing unit, the memory unit and the digital baseband processing unit are configured to communication with each other via the parallel bus.
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7. The cellular phone installation of claim 1 wherein the digital baseband processing unit is configured to communicate with the display module via a serial bus.

8. The cellular phone installation of claim 7 wherein the digital baseband processing unit is configured to communicate with the analog baseband processing unit via the serial bus.

5 9. The cellular phone installation of claim 7 wherein the serial bus is further connected with a plurality of peripheral devices.

10 10. The cellular phone installation of claim 1 wherein the digital baseband processing unit and the analog baseband processing unit are integrable into an integrated circuit.

15 11. The cellular phone installation of claim 1 wherein the digital baseband processing unit and the audio signal processing unit are integrable into an integrated circuit.

12. The cellular phone installation of claim 1 wherein the digital baseband processing unit, the analog baseband processing unit, and the audio signal processing unit are integrable into an integrated circuit.

20 13. A method of enabling a cellular phone installation to capture and view images while providing telephone communication service simultaneously, wherein data is transmitted from a digital baseband processing unit to a display module while the cellular phone installation is conducting telephone communication, and data is transmitted from an image capture processing module to the display
25 module while the cellular phone installation is capturing images or viewing images, the method comprising:

enabling an interrupt control unit to intercept the transmission between the digital baseband processing unit and the display module; and

allowing the image capture processing module to transmit images to be displayed to the display module and allowing a telephone communication by the cellular phone installation simultaneously.

14. The method of enabling a cellular phone installation to capture and view images while providing telephone communication service simultaneously of claim 13 wherein the image capture processing module includes an image sensor and an image sensing microprocessor, and the images intended to be viewed is transmitted to the display module via the image sensing microprocessor.

15. The method of enabling a cellular phone installation to capture and view images while providing telephone communication service simultaneously of claim 14 wherein the images intended to be view is captured from the image sensor.

16. The method of enabling a cellular phone installation to capture and view images while providing telephone communication service simultaneously of claim 15 wherein captured images by the image sensor is stored in a built-in memory of the image sensing microprocessor.

17. The method of enabling a cellular phone installation to capture and view images while providing telephone communication service simultaneously of claim 16 wherein the captured images is compressed by the image sensing microprocessor and stored in the built-in memory of the image sensing microprocessor.

18. The method of enabling a cellular phone installation to capture and view images while providing telephone communication service simultaneously of claim 16 wherein the digital baseband processing unit is enabled to use free intervals between busy telephone communication periods of the cellular phone installation to read out image in the built-in memory of the image sensing microprocessor.

19. The method of enabling a cellular phone installation to capture and view images while providing telephone communication service simultaneously of claim 18 wherein the image sensing microprocessor is configured to communicate with the digital baseband processing unit via a parallel bus.

20. The method of enabling a cellular phone installation to capture and view images while providing telephone communication service simultaneously of claim 14 wherein images to be displayed is read out from a memory unit by the digital baseband processing unit and transmitted to the image sensing microprocessor.

21. The method of enabling a cellular phone installation to capture and view images while providing telephone communication service simultaneously of claim 13 wherein the digital baseband processing unit is enabled to transmit images to be displayed to an image sensing microprocessor within an image capture processing module when an additional image display service is requested during image capture or viewing operation, and thereby drive the image sensing microprocessor to transmit the images to be displayed to the display module.

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22. The method of enabling a cellular phone installation to capture and view images while providing telephone communication service simultaneously of claim 21 herein the digital baseband processing unit is configured to communicate with the image sensing microprocessor via a serial bus.

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23. The method of enabling a cellular phone installation to capture and view images while providing telephone communication service simultaneously of claim 13 wherein the digital baseband processing unit is configured to communicate with the display module via a parallel bus.

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